

CLAIMS

1. An isolated viral nucleic acid comprising a nucleic acid sequence at least 90% identical to the nucleic acid sequence set forth as SEQ ID NO: 1.

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2. A host cell transformed with the virus of claim 1.

3. A polypeptide at least 95% identical to a polypeptide encoded by the nucleic acid of SEQ ID NO: 1.

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4. The polypeptide of claim 3, wherein the polypeptide is 100% identical to the polypeptide encoded by SEQ ID NO: 1.

5. The polypeptide of claim 3, wherein the polypeptide encoded by nucleic acid 21845 to nucleic acid 22120 of SEQ ID NO: 1 (JMHV25), nucleic acid 22363 to nucleic acid 22701 of SEQ ID NO: 1 (JMHV26), nucleic acid 33254 to nucleic acid 33553 of SEQ ID NO: 1 (JMHV39), nucleic acid 35301 to nucleic acid 35687 of SEQ ID NO: 1 (JMvh41), nucleic acid 40188 to nucleic acid 40439 of SEQ ID NO: 1 (JMHV48), nucleic acid 45836 to nucleic acid 46195 of SEQ ID NO: 1 (JMHV54), nucleic acid 47768 to nucleic acid 48136 of SEQ ID NO: 1 (JM57), nucleic acid 57325 to nucleic acid 57573 of SEQ ID NO: 1 (JM71), nucleic acid 62823 to nucleic acid 63086 of SEQ ID NO: 1 (JM76), nucleic acid 65629 to nucleic acid 65880 of SEQ ID NO: 1 (JM80), nucleic acid 67920 to nucleic acid 68594 of SEQ ID NO: 1 (JM85), nucleic acid to nucleic acid of SEQ ID NO: 1 (JM87) 20 nucleic acid 70328 to nucleic acid 70606 of SEQ ID NO: 1 (JM88), nucleic acid 75447 to nucleic acid 75722 of SEQ ID NO: 1 (JM95), nucleic acid 105581 to nucleic acid 106003 of SEQ ID NO: 1 (JM132), nucleic acid 117501 to nucleic acid 118265 of SEQ ID NO: 1 (JM152), nucleic acid to nucleic acid of SEQ ID NO: 1 (JM159), nucleic acid to nucleic acid of SEQ ID NO: 1 (JM166), and nucleic acid to 25 nucleic acid of SEQ ID NO: 1 (JM167).

6. The polypeptide of claim 5, wherein the polypeptide comprises an amino acid sequence set forth as one of SEQ ID NOS: 1-171.

7. An antibody that specifically binds the polypeptide of claim 3.
8. The antibody of claim 7, wherein the antibody is a monoclonal antibody.
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9. A nucleic acid encoding the polypeptide of claim 3.
10. The nucleic acid of claim 9, operably linked to a promoter.
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11. A vector comprising the nucleic acid of claim 10.
12. The vector of claim 11, wherein the vector is a viral vector.
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13. A method for testing the efficacy of an agent for the treatment a symptom associated with multiple sclerosis, the method comprising:
 - (a) administering the agent to a non-human primate infected with a virus comprising the nucleic acid sequence of claim 1; and
 - (b) observing the non-human primate to determine if the drug inhibits the presentation of one or more symptoms associated with Japanese macaque herpesvirus (JMHV) infection as compared to a non-human primate not administered the agent.
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14. The method of claim 13, wherein the agent is a drug used to treat multiple sclerosis.
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15. The method of claim 13, wherein the non-human primate is a Japanese macaque monkey.
16. The method of claim 13, wherein the symptom is associated with multiple sclerosis.
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17. A method of detecting the presence of a virus in a biological specimen, comprising:

(a) amplifying by polymerase chain reaction a Japanese macaque herpesvirus (JMHV) nucleic acid sequence, if such sequence is present in the sample, using two or more oligonucleotide primers comprising 20 contiguous nucleotides of the nucleic acid sequence of claim 1 to form an amplified sequence; and

5 (b) determining whether an amplified sequence is present.

18. The method of claim 17, wherein the step of determining whether an amplified sequence is present comprises one or more of:

10 (a) electrophoresis and staining of the amplified sequence; or

(b) hybridization the amplified sequence to a probe.

19. The method of claim 18, wherein the probe comprises a detectable non-isotopic label comprising a fluorescent molecule, a chemiluminescent molecule, an 15 enzyme, a co-factor, an enzyme substrate; or a hapten.

20. The method of claim 17, wherein the biological specimen is a non-human primate specimen.

20 21. A method of detecting the presence of Japanese macaque herpesvirus (JMHV) in a biological specimen, comprising:

(a) exposing the biological specimen to a probe that hybridizes to a Japanese macaque herpesvirus (JMHV) nucleic acid sequence of claim 1, if the sequence is present in the sample to form a hybridization complex; and

25 (b) determining whether the hybridization complex is present, thereby detecting the presence of the Japanese macaque herpesvirus (JMHV).

22. The method of claim 21, wherein the primate specimen is a non-human primate specimen.

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23. A method of detecting the presence of Japanese macaque herpesvirus (JMHV) in a biological specimen, comprising:

(a) contacting the biological specimen with the antibody of claim 5,

(b) detecting binding of the antibody to the biological specimen or a component thereof, wherein binding of the antibody to the biological specimen indicates the presence of a Japanese macaque herpesvirus (JMHV).

5 24. The method of claim 23, wherein the antibody comprises a detectable label.

10 25. The method of claim 24, wherein the detectable label comprises a fluorescent molecule, a chemiluminescent molecule, an enzyme, a co-factor, an enzyme substrate; or a hapten.

15 26. A kit comprising a container means comprising an oligonucleotide primer comprising at least 15 contiguous nucleotides of the nucleic acid sequence of claim 1.

27. A kit comprising a container means comprising an antibody of claim 7.

20 28. A non-human primate model for multiple sclerosis, comprising a non-human primate infected with a virus comprising the nucleic acid sequence of claim 1, wherein the non-human primate exhibits a symptom or a pathological feature of multiple sclerosis.

25 29. The non-human primate model of claim 28, wherein the symptom is acute onset paresis or paralysis involving one or more limbs.

30 30. The non-human primate model of claim 28, wherein the pathological feature is myelin destruction in a central nervous system.

31. The non-human primate model of claim 28, wherein the non-human primate is a Japanese macaque.

32. An isolated virus comprising the nucleic acid of claim 1.